-40-

What is claimed is:

CLAIMS

1. A method of producing a tamper-resistant authentication mark on a product or product package, the method comprising acts of:

applying one or more light-sensitive compounds to the product or product package to produce an authentication mark; and

thereafter applying a sealer over the mark in a manner to isolate the mark and without mixing the sealer with the one or more light-sensitive compounds.

- 2. The method according to claim 1, wherein the act of applying one or more light-sensitive compounds to the product or product package comprises an act of applying at least two light-sensitive compounds to the product or product package.
- 3. The method according to claim 1, wherein the act of applying one or more light-sensitive compounds to the product or product package to produce an authentication mark comprises an act of applying one or more light-sensitive compounds to the product or product package with a continuous ink jet printer.
- 4. The method according to claim 1, wherein the act of applying a sealer over the mark comprises an act of spraying a liquid sealer over the mark.
 - 5. The method according to claim 1, further comprising an act of curing the sealer.
- 6. The method according to claim 5, wherein the act of applying a sealer over the mark comprises an act of applying a UV curable sealer over the mark, the method further comprising an act of curing the sealer with UV light.
- 7. The method according to claim 1, wherein the act of applying one or more light-sensitive compounds to the product or product package comprises an act of applying one or more non-UV light-sensitive compounds to the product or product package.

- 8. The method according to claim 1, wherein the act of applying one or more light-sensitive compounds to the product or product package comprises an act of applying one or more IR light-sensitive compounds to the product or product package.
- 9. The method according to claim 1, wherein the act of applying one or more light-sensitive compounds to the product or product package comprises an act of applying one or more near IR light-sensitive compounds to the product or product package.
- 10. The method according to claim 1, wherein the acts of applying one or more light-sensitive compounds to the product or product package and thereafter applying a sealer over the mark each occurs at a speed commensurate with a speed at which the product is being produced or at which the product is being packaged.
- 11. The method according to claim 1, wherein the act of applying one or more light-sensitive compounds to the product or product package comprises an act of applying one or more light-sensitive compounds to a product package after a product is packaged within the product package.
- 12. The method according to claim 1, wherein the act of applying one or more light-sensitive compounds to the product or product package comprises an act of applying an ink having the one or more light-sensitive compounds disposed therein to the product or product package.
- 13. A product or product package having the mark produced with the method of claim 1.
- 14. The product or product package according to claim 13, wherein the product or product package is formed of plastic.
- 15. The product or product package according to claim 14, wherein the product or product package is formed as a bottle.

- 16. The product or product package according to claim 15, wherein the product or product package is formed as a shampoo bottle.
 - 17. A tamper-resistant authentication mark produced with the method of claim 1.
- 18. The tamper-resistant authentication mark according to claim 17, wherein the mark is invisible to the naked eye.
- 19. The tamper-resistant authentication mark according to claim 17, wherein the mark is resistant to a solution, with the solution being selected form the group consisting essentially of water, ethanol, acetone, and methyl ethyl ketone.
- 20. A method of producing a tamper-resistant authentication mark on a product or product package, the method comprising acts of:

applying one or more light-sensitive compounds to the product or product package to produce an authentication mark, with the one or more light-sensitive compounds comprising a non-UV light-sensitive compound; and

applying a sealer within or over the mark.

- 21. The method according to claim 20, wherein the act of applying one or more light-sensitive compounds to the product or product package comprises an act of applying at least two light-sensitive compounds to the product or product package.
- 22. The method according to claim 20, wherein the act of applying one or more light-sensitive compounds to the product or product package to produce an authentication mark comprises an act of applying one or more light-sensitive compounds to the product or product package with a continuous ink jet printer.
- 23. The method according to claim 20, wherein the act of applying a sealer comprises an act of mixing the sealer with the one or more light-sensitive compounds.

PCT/US2003/024304

WO 2004/013805

-43-

- The method according to claim 20, further comprising an act of curing the 24. sealer.
- 25. The method according to claim 24, wherein the act of applying a sealer within or over the mark comprises an act of applying a UV curable sealer within or over the mark, the method further comprising an act of curing the sealer with UV light.
- The method according to claim 20, wherein the act of applying one or more 26. light-sensitive compounds to the product or product package comprises an act of applying one or more IR light-sensitive compounds to the product or product package.
- The method according to claim 20, wherein the act of applying one or more 27. light-sensitive compounds to the product or product package comprises an act of applying one or more near IR light-sensitive compounds to the product or product package.
- The method according to claim 20, wherein the acts of applying one or more 28. light-sensitive compounds to the product or product package and thereafter applying a sealer over the mark each occurs at a speed commensurate with a speed at which the product is being produced or at which the product is being packaged.
- The method according to claim 20, wherein the act of applying one or more 29. light-sensitive compounds to the product or product package comprises an act of applying one or more light-sensitive compounds to a product package after a product is packaged within the product package.
- The method according to claim 20, wherein the act of applying one or more 30. light-sensitive compounds to the product or product package comprises an act of applying an ink having the one or more light-sensitive compounds disposed therein to the product or product package.
- A product or product package having the mark produced with the method of 31. claim 20.

- 32. The product or product package according to claim 31, wherein the product or product package is formed of plastic.
- 33. The product or product package according to claim 32, wherein the product or product package is formed as a bottle.
- 34. The product or product package according to claim 33, wherein the product or product package is formed as a shampoo bottle.
 - 35. A tamper-resistant authentication mark produced with the method of claim 20.
- 36. The tamper-resistant authentication mark according to claim 35, wherein the mark is invisible to the naked eye.
- 37. The tamper-resistant authentication mark according to claim 35, wherein the mark is resistant to a solution, with the solution being selected form the group consisting essentially of water, ethanol, acetone, and methyl ethyl ketone.
- 38. A method of producing a tamper-resistant authentication mark on a product or product package, the method comprising acts of:

applying an ink having one or more light-sensitive compounds to the product or product package to produce an authentication mark, with the one or more light-sensitive compounds comprising an IR or near IR light-sensitive compound;

applying a UV-curable overcoat over the mark; and curing the overcoat with UV light.

39. The method according to claim 38, wherein the act of applying an ink having one or more light-sensitive compounds to the product or product package comprises an act of applying an ink having at least two light-sensitive compounds to the product or product package.

- 40. The method according to claim 38, wherein the act of applying an ink having one or more light-sensitive compounds to the product or product package comprises an act of applying an ink having one or more light-sensitive compounds to the product or product package with a continuous ink jet printer.
- 41. The method according to claim 38, wherein the act of applying a UV-curable overcoat over the mark comprises an act of spraying a liquid UV-curable overcoat over the mark.
- 42. The method according to claim 38, wherein the acts of applying an ink having one or more light-sensitive compounds to the product or product package and thereafter applying an overcoat over the mark each occurs at a speed commensurate with a speed at which the product is being produced or at which the product is being packaged.
- 43. The method according to claim 38, wherein the act of applying an ink having one or more light-sensitive compounds to the product or product package comprises the acts of applying an ink having one or more light-sensitive compounds to a product package after a product is packaged within the product package.
- 44. A product or product package having the mark produced with the meth od of claim 38.
- 45. The product or product package according to claim 44, wherein the product or product package is formed of plastic.
- 46. The product or product package according to claim 45, wherein the product or product package is formed as a bottle.
- 47. The product or product package according to claim 46, wherein the product or product package is formed as a shampoo bottle.
 - 48. A tamper-resistant authentication mark produced with the method of claim 38.

49. The tamper-resistant authentication mark according to claim 48, wherein the mark is resistant to a solution, with the solution being selected form the group consisting essentially of water, ethanol, acetone, and methyl ethyl ketone.